

CLAIMS

1. A base station apparatus comprising: an adaptive array antenna receiving means for receiving
5 signals from communication terminals by an adaptive array antenna with a receiving directivity pattern obtained in advance; a correlation level detecting means for detecting a correlation level for said respective receiving directivity patterns; and a means for detecting
10 said already-known signal section of a random access channel signal by using the results of the detection of correlation level and for detecting despreading timing of said already-known signal section.

2. The base station apparatus as set forth in
15 Claim 1, wherein said receiving directivity pattern is a receiving directivity pattern, which is obtained group by group after said respective communication terminals are grouped on the basis of a direction of arrival of signals from said respective communication terminals.

20 3. The base station apparatus as set forth in Claim 1, wherein a message section of a random access channel is received by an adaptive array antenna with said receiving directivity pattern.

25 4. The base station apparatus as set forth in Claim 1, further including means for selecting a signal pattern corresponding to the already-known section of said random access channel signal, and means for

transmitting said signal pattern with a transmission directivity pattern that is obtained on the basis of said receiving directivity pattern.

5. The base station apparatus as set forth in Claim 1, wherein despreading timing of said already-known signal section of random access channel signals is used as the despreading timing of a message section continued from the said already-known signal section.

6. A communication terminal unit for carrying out wireless transmission with a base station apparatus, wherein said base station apparatus includes: means for receiving signals from a communication terminal by an adaptive array antenna with a receiving directivity pattern obtained in advance, means for detecting a correlation level for said respective receiving directivity patterns; and means for detecting, by using the result of said correlation level detection, said already-known signal section of a random access channel signal and despreading timing of said already-known signal section.

7. A communication terminal unit, comprising: means for carrying out a despreading process with respect to a reference signal that is transmitted by an adaptive array antenna with the same directivity as that of the AICH signals transmitted from a base station apparatus by the AAA with a random access channel signal; means for estimating a channel of said AICH signal using an

output of said despreading means; and means for demodulating said AICH signal using an output said channel estimating means.

8. The communication terminal unit as set forth in Claim 7, wherein said demodulating means is informed by an upper layer of an instruction that demodulation is carried out by using said reference signal for channel estimation.

9. A method for wireless communications, comprising the steps of:

receiving signals from communication terminals by an adaptive array antenna with the receiving directivity patterns obtained in advance;

detecting a correlation level for said respective receiving directivity patterns; and

detecting the already-known signal section of random access channel signals by using the result of said correlation level detection, and detecting despreading timing of said already-known signal section.

10. The method for wireless communications as set forth in Claim 9, further comprising the steps of:

selecting a signal pattern corresponding to the already-known signal section of said random access channel signal; and

transmitting said signal pattern with a transmission directivity pattern that is obtained on the basis of said receiving directivity pattern.

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